

## **REMARKS/ARGUMENT**

### **Regarding the Claims in General:**

Claims 1, 2, and 4-25 remain in the application, with claims 1, 2, and 4-13 before the Examiner, and claims 14-25 withdrawn from consideration as non-elected. By this communication, claim 1 has been amended in an effort to further highlight an important distinction over the prior art. The amendment introduces no new matter, and since it merely clarifies a previously present limitation, it does not narrow the scope of the claim for statutory purposes related to patentability.

### **Regarding the Telephonic Interview Held May 16, 2007:**

Applicants' representative gratefully acknowledges the courtesy and assistance afforded to him by the Examiner during the interview. At that time, the Examiner stated that, according to his interpretation, claim 1 was broad enough to read on Histaka with respect to the claimed bump forming device, and explained his reasoning. Applicants' representative thereupon proposed an amendment to claim 1 (subject to approval by applicants' assignee), and on first reading, the Examiner advised the proposed changes seemed to overcome the rejection. The amendment to claim 1 as proposed during the interview is presented herein.

### **Regarding the Prior Art Rejections:**

In the outstanding Office Action, claims 1, 2, and 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisataka JP Published Application 01-296636 (Histaka) in view of Lin U.S. Patent 5,222,014 (Lin) and Okuyama Patent DE 3429375 (Okuyama). It is respectfully submitted that the Examiner's interpretation of claim 1 (in its previous form) and of Histaka is entirely unwarranted.

As understood from the outstanding Office Action and the Examiner's comments during the interview, the dispute centers largely around the proper interpretation of the clause:

a bump forming device located at a bumping site at which the semiconductor devices are positioned during bumping, the bumping site being situated entirely outside the chamber system and adjacent to the access opening . . .

The Examiner is understood to be treating the claimed bump forming device as corresponding to elements 7, 20, and 26 of Histaka, which he asserts are “at the bumping site”. (The Examiner is understood to be interpreting the word “at” to mean - - in the vicinity of - - or the like.) Even accepting the Examiner’s interpretation of elements 7, 20, and 26 as Histaka’s bumping device, and his interpretation of the word “at”, this completely ignores the claimed requirement that the bumping site be “situated *entirely outside* the chamber system”. In fact, in Histaka, the equivalent of the claimed bumping site is entirely *inside* the chamber system. For the forgoing reasons, claim 1 should have been allowed in its previous form.

Nevertheless, to advance the prosecution, claim 1 has been amended so that the clause in question now reads:

a bump forming device located at a bumping site at which the semiconductor devices are positioned during bumping, the bumping site being situated so that the semiconductor devices are entirely outside the chamber system and adjacent to the access opening during bumping

Whether or not the Examiner’s position in the outstanding Office Action is sustainable, even in part, there is no valid way to read the amended clause on Histaka. Clearly, in Histaka, the semiconductor devices are not entirely outside the chamber during bumping, but are entirely inside.

Nor do either of the secondary references (Lin and Okuyama) remedy the above-described deficiency in Histaka. As discussed in response to the previous Office Action, and in connection with the content of the English language Abstract of Okuyama in German Published Application DE 3429375 (the version cited by the Examiner in the outstanding Office Action ), Okuyama discloses a single furnace 1 divided into four zones Z1-Z4. Therefore, the position 22 referred to by the Examiner where "bumping" takes place is entirely *inside* the furnace.

Lin, on the other hand, discloses only a semiconductor device in the form of a multiple chip module (MCM), and to some degree, the manner in which the MCM is assembled. It does not, however, disclose or teach anything about a machine for assembly of an MCM, and certainly does not disclose, teach, or suggest the details of a stud bumping apparatus.

It is respectfully submitted that the claims in their present form should be allowed at this time for the reasons stated above. Should there remain any outstanding issues, the Examiner is

respectfully requested to contact the undersigned by telephone so that they can be expeditiously resolved.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Lawrence A. Hoffman", is written over a horizontal line.

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